## **Texas Water Development Board**





## **RESERVOIR STORAGE**

August 2008

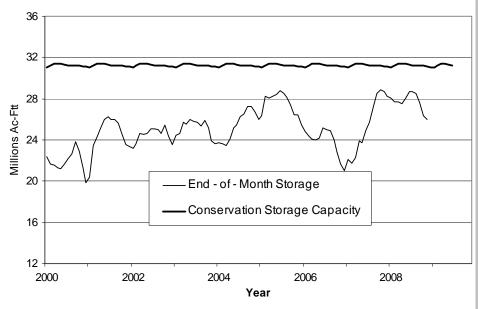
Near the end of August, the 109 reservoirs monitored for this report were 83 percent full\*, on average, holding 26.03 million acre-feet in conservation storage, about 0.34 million acre-feet less than July and 2.7 million acre-feet less than August of 2007.

Storage was at 100% in 9 reservoirs. Two regions, East (91%) and North Central Regions (91%) had storage at or above 90% of capacity; however, the High Plains Region (9%) and the Trans-Pecos Region (22%) remain very low. Statewide, five lakes are below 10% full. Among them O C Fisher Lake is effectively empty. Storage in Lake Meredith experienced some relief with recent rains, jumping from 4% to 7%.

Regionally, storage increased by 3% in the High Plains and Southern Regions, but decreased in the remaining seven. Compared to this time last year, storage decreased in all nine regions.

\* Only the Texas share of storage in border reservoirs is counted.

# CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



\* Figures are based on end of the month data at 109 major reservoirs that represent 95 percent of the total conservation storage capacity of the 175 major water supply reservoirs in Texas. By definition, a major reservoir has a conservation storage capacity of 5,000 acre-feet or greater.

# **STREAMFLOW**

Of 29 reporting index stations in August, computed 30-day mean flows were very high (<5%) at 1 station, high (5% - 30%) at 7 stations, low (70% - 95%) at 9 stations, very low (>95%) at 1 station, and near normal (30% - 70%) at the remaining 11 stations. Compared to July, flows increased at 20 index stations, decreased at 7 stations, and were unchanged at 2 stations.

On a regional basis, flows in August were high in the High Plains Region and normal in all other regions. Streamflow in the Lower Valley Region is not monitored.

## AUGUST STREAMFLOW CONDITIONS

#### Reservoirs Shown on Map

Palo Duro Reservoir

Mineral Wells, Lake

Weatherford, Lake

Worth, Lake

Daniel, Lake

Leon, Lake

Grapevine Lake

Palo Pinto, Lake

Benbrook Lake Arlington, Lake Joe Pool Lake

Lake Granbury

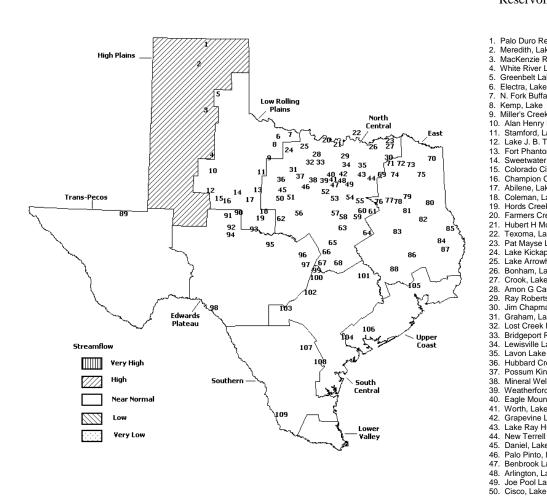
Pat Cleburne, Lake

Waxahacie, Lake 55. Bardwell Lake

Lake Ray Hubbard

New Terrell City Lake

Eagle Mountain Lake



Meredith, Lake MacKenzie Reservoir White River Lake Greenbelt Lake Electra, Lake N. Fork Buffalo Creek Reservoir Kemp, Lake Miller's Creek Reservoir 10. Alan Henry Reservoir Stamford, Lake 12. Lake J. B. Thomas Fort Phantom Hill, Lake 14. Sweetwater, Lake Colorado City, Lake Champion Creek Reservoir Abilene, Lake Coleman, Lake Hords Creek Lake Farmers Creek Reservoir Hubert H Moss Lake Texoma, Lake Pat Mayse Lake Lake Kickapoo Lake Arrowhead Bonham, Lake Crook, Lake Amon G Carter, Lake Ray Roberts, Lake Jim Chapman Lake Graham, Lake Lost Creek Reservoir Bridgeport Reservoir Lavon Lake Hubbard Creek Reservoir Possum Kingdom Lake

56. Proctor Lake Whitney Lake 62.

Aquilla Lake Navarro Mills Lake Halbert, Lake Richland-Chambers Reservoir Lake Brownwood Waco Lake 64 Limestone Lake 65. Belton Lake Stillhouse Hollow Lake Georgetown, Lake Granger Lake Tawakoni, Lake 70. Wright Patman Lake Sulphur Springs, Lake Cypress Springs, Lake 73. Bob Sandlin, Lake 74. Fork Reservoir, Lake O' the Pines, Lake Cedar Creek Reservoir Trinity Athens, Lake 78. Palestine, Lake Tyler, Lake 80. Murvaul, Lake Jacksonville, Lake Nacogdoches, Lake 83. Houston County Lake Sam Rayburn Reservoir Toledo Bend Reservoir Livingston, Lake B. A. Steinhagen Lake 88. Conroe, Lake Red Bluff Reservoir 105. Lake Houston

106.

90 Oak Creek Reservoir E. V. Spence Reservoir O. C. Fisher Lake 93. O. H. Ivie Reservoir Twin Buttes Reservoir Vrady Creek Reservoir 96. Buchanan, Lake Lyndon B Johnson, Lake 98 Amistad Reservoir Intl. Travis, Lake 100. Austin, Lake 101. Somerville Lake Canyon Lake 103 Medina Lake 104. Coleto Creek Reservoir

Choke Canyon Reservoir Lake Corpus Christi 109. Falcon Reservoir, Intl.

Texana, Lake

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake	No.			Change since		Change since		
or Reservoir	on	Storage	Storage		Late July		Late August	
	Map	Capacity	Late Aug.	2008	2008		2007	
		(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)
	_	HIGH PL		_		_		_
Palo Duro Reservoir	1	60,897	1,103	2	576	1	-362	-1
Meredith, Lake (Texas)	2	500,000	52,560	11	18,993	4	-12,488	-2
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	52,560	7	18,993	2	-12,488	-2
MacKenzie Reservoir	3	46,429	6,309	14	-134	0	-1,671	-4
White River Lake	4	29,880	392	1	-64	0	-2,152	-7
TOTAL		637,206	60,364	9	19,371	3	-16,673	-3
		LOW ROLLING	PLAINS					
Greenbelt Lake	5	59,500	19,319	32	112	0	-3,812	-6
*Electra, Lake	6	5,626	1,205	21	-121	-2	-997	-18
N. Fork Buffalo Crk Reservoir	7	15,400	4,829	31	1,038	7	-1,180	-8
Kemp, Lake	8	245,308	195,452	80	-19,036	-8	-49,856	-20
Millers Creek Reservoir	9	27,888	18,497	66	-784	-3	-8,293	-30
Alan Henry Reservoir	10	94,808	94,270	99	4,721	5	-538	-1
Stamford, Lake	11	51,570	38,799	75	-1,376	-3	-12,771	-25
J B Thomas, Lake	12	199,931	15,114	8	-271	0	-19,572	-10
Fort Phantom Hill, Lake	13	70,030	67,256	96	4,644	7	-2,774	-4
Sweetwater, Lake	14	10,006	8,459	85	-106	-1	1,368	14
Colorado City, Lake	15	31,793	23,113	73	-330	-1	-6,440	-20
Champion Creek Reservoir	16	41,618	9,568	23	447	1	-355	-1
Abilene, Lake	17	6,099	4,875	80	17	0	-1,224	-20
Coleman, Lake	18	38,076	31,066	82	-752	-2	-6,721	-18
Hords Creek Lake	19	5,684	3,510	62	-194	-3	-1,962	-35
TOTAL	19	903,337	535,332	59	-11,991	-1	-115,129	-13
IOIAL		303,337	333,332	3,5	11,331	-	113,123	
		NORTH CE	NTRAL					
Nocona, Lake (Farmers Crk)	20	21,445	19,067	89	0	0	-1,832	-9
Hubert H Moss Lake	21	24,058	22,583	94	-83	0	-856	-4
Texoma, Lake (Texas)	22	1,248,903	1,248,903	100	19,156	2	-51,173	- 4
Texoma, Lake (Texas & Oklahoma)	(22)	2,497,806	2,497,806	100	38,312	2	-102,346	-4
*Pat Mayse Lake	23	118,100	112,213	95	-1,397	-1	-5,887	-5
Kickapoo, Lake	24	85,825	46,640	54	-2,819	-3	-24,489	-29
Arrowhead, Lake	25	235,997	176,151	75	-3,181	-1	-52,749	-22
Bonham, Lake	26	11,026	9,683	88	20	0	-911	-8
Crook, Lake	27	9,195	8,430	92	62	1	-383	-4
Amon G Carter, Lake	28	19,903	17,524	88	-145	-1	-2,379	-12
Ray Roberts, Lake	29	798,758	781,344	98	6,555	1	-17,414	-2
Jim Chapman Lake (Cooper)	30	260,332	219,443	84	-15,007	-6	-76,344	-29
Graham, Lake	31	45,260	42,155	93	427	1	-763	-2
*Lost Creek Reservoir	32	11,950	11,069	93	-151	-1	-604	-5
Bridgeport, Lake	33	366,236	320,617	88	-11,736	-3	-41,797	-11
Lewisville Lake	34	543,988	474,229	87	-12,037	-2	-69,759	-13
Lavon Lake	35	443,844	375,457	85	-13,826	-3	-61,453	-14
Hubbard Creek Reservoir	36	318,067	283,166	89	-6,589	-2	-23,369	-7
Possum Kingdom Lake	37	540,340	487,815	90	-7,258	-1	-26,982	-5
*Mineral Wells, Lake	38	7,065	5,790	82	0	0	-814	-12
Weatherford, Lake	39	18,645	14,855	80	-729	-4	-2,657	-14
Eagle Mountain Lake	40	182,500	161,437	88	-647	0	-16,268	-9
Worth, Lake	41	24,500	19,962	81	-1,675	-7	-1,540	-6
Grapevine Lake	42	164,702	142,453	86	-7,131	-4	-22,249	-14
Ray Hubbard, Lake	43	452,040	437,611	97	9,216	2	-9,883	-2
New Terrell City Lake	44	8,583	7,863	92	-110	-1	-652	-8
Daniel, Lake	45	9,435	7,892	84	-345	-4	-1,543	-16
Palo Pinto, Lake	46	27,150	19,935	73	-1,224	-5	-5,904	-22
Benbrook Lake	47	85,648	62,713	73	-8,416	-10	-18,337	-21
Arlington, Lake	48	38,740	28,442	73	-931	-2	-6,381	-16
		30,740	20,112	13	-33 <u>T</u>	- 4	-0,301	-10

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake	No.	Conservation	Conservation Storage		Change since Late July		Change since Late August	
or Reservoir	on	Storage						
	Map	Capacity	Late Aug.	2008	2008		2007	
		(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)
	NORT	H CENTRAL (C	Continue)					
Joe Pool Lake	49	142,861	132,673	93	-2,881	-2	-8,565	-6
*Cisco, Lake	50	26,000	21,030	81	-292	-1	-1,566	-6
Leon, Lake	51	26,421	23,908	90	-681	-3	-1,877	-7
Granbury, Lake	52	128,046	114,428	89	0	0	-9,465	-7
Pat Cleburne, Lake	53	25,730	21,861	85	-855	-3	-3,493	-14
Waxahachie, Lake	54	10,779	9,290	86	-182	-2	-827	-8
Bardwell Lake	55	46,122	41,311	90	-873	-2	-4,811	-10
Proctor Lake	56	55,457	41,829	75	-1,674	-3	-13,628	-25
Whitney, Lake	57	553,349	419,556	76	-27,292	-5	-133,793	-24
Aquilla Lake	58	45,092	38,006	84	-1,459	-3	-6,577	-15
Navarro Mills Lake	59	55,817	48,885	88	-2,043	-4	-6,531	-12
*Halbert, Lake	60	6,033	4,349	72	-268	-4	-1,020	-17
Richland-Chambers Reservoir	61	1,103,816	1,020,000	92	-17,481	-2	-65,321	-6
*Brownwood, Lake	62	131,429	107,419	82	-1,193	-1	-23,560	-18
Waco, Lake	62	198,943	186,138	94	-894	0	-12,805	-6
Limestone, Lake	64	208,015	200,574	96	17,216	8	-1,342	-1
Belton Lake	65	435,225	435,225	100	17,855	4	0	0
Stillhouse Hollow Lake	66	227,771	217,695	96	-2,816	-1	-10,076	-4
Georgetown, Lake	67	36,823	19,051	52	-2,680	-7	-17,772	-48
Granger Lake	68	52,525	45,697	87	-2,163	-4	-6,828	-13
Tawakoni, Lake	69	888,126	819,490	92	-22,743	-3	-42,128	-5
TOTAL		10,526,615	9,533,857	91	-113,400	-1	-917,357	-9
		EAS!	r					
Wright Patman Lake	70	262,330	262,330	100	-14,846	-6	16,333	6
*Sulphur Springs, Lake	71	17,838	16,835	94	-547	-3	-748	-4
Cypress Springs, Lake	72	67,689	67,689	100	690	1	207	0
Bob Sandlin, Lake	73	200,579	196,688	98	1,078	1	-2,896	-1
Fork Reservoir, Lake	74	604,927	600,175	99	-4,224	-1	-4,752	-1
O the Pines, Lake	75	267,672	267,672	100	6,015	2	28,739	11
Cedar Creek Reservoir in Trinity	76	644,686	601,325	93	-9,032	-1	-28,572	-4
Athens, Lake	77	29,435	27,839	95	-269	-1	-1,596	-5
Palestine, Lake	78	370,907	370,907	100	10,650	3	4,347	1
Tyler, Lake	79	73,256	72,879	99	3,389	5	564	1
Murvaul, Lake	80	38,284	36,425	95	2,536	7	433	1
Jacksonville, Lake	81	30,300	28,963	96	257	1	-1,337	-4
Nacogdoches, Lake	82	39,521	36,892	93	1,352	3	-984	-2
Houston County Lake	83	17,113	17,113	100	1,080	6	114	1
Sam Rayburn Reservoir	84	2,857,077	2,392,544	84	-105,210	-4	-348,562	-12
Toledo Bend Reservoir (Texas)	85	2,236,450	1,903,118	85	-104,809	-5	-225,413	-10
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	3,806,237	85	-209,617	-5	-450,826	-10
*Livingston, Lake	86	1,741,867	1,741,867	100	29,867	2	0	0
B A Steinhagen Lake	87	66,966	53,478	80	-7,843	-12	-8,549	-13
Conroe, Lake	88	416,188	398,453	96	3,614	1	-12,473	-3
TOTAL		9,983,085	9,093,192	91	-186,252	-2	-585,144	-6
		TRANS-P	ECOS					
Red Bluff Reservoir	89	289,670	62,751	22	-7,884	-3	-23,314	-8
TOTAL		289,670	62,751	22	-7,884	-3	-23,314	-8

#### CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

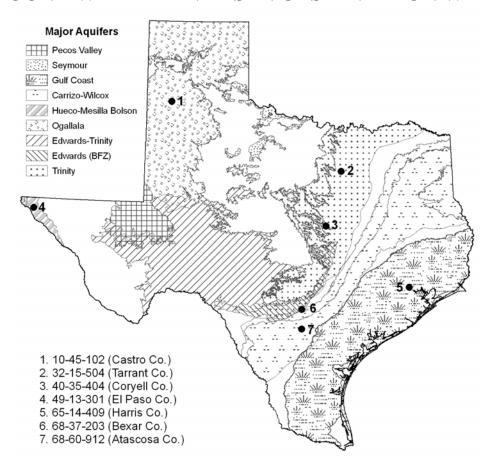
		T	T		ı			
Name of Lake	No.	Conservation	Conservation		Change since		Change since	
or Reservoir	on	Storage	Storage		Late July		Late August	
	Map	Capacity	Late Aug.	2008	2008		2007	
		(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)
		EDWARDS P	LATEAU					
Oak Creek Reservoir	90	39,260	33,372	85	-673	-2	-5,087	-13
E V Spence Reservoir	91	517,272	64,002	12	391	0	-21,678	-4
O C Fisher Lake	92	79,483	0	0	0	0	0	0
*O H Ivie Reservoir	93	554,335	335,572	61	-6,485	-1	-46,790	-8
Twin Buttes Reservoir	94	177,850	51,897	29	-3,651	-2	-9,957	-6
Brady Creek Reservoir	95	29,110	16,908	58	-789	-3	-410	-1
Buchanan, Lake	96	824,519	705,400	86	-46,353	-6	-128,436	-16
Lyndon B Johnson, Lake	97	113,690	111,954	98	964	1	-965	-1
*Amistad Reservoir (Texas)	98	1,840,849	2,106,000	114	16,000	1	77,000	4
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	2,294,000	70	79,000	2	-425,000	-13
TOTAL		4,176,368	3,425,105	82	-40,596	-1	-136,322	-3
		SOUTH CE	NTRAL					
Travis, Lake	99	1,113,902	783,945	70	-48,353	-4	-329,957	-30
*Austin, Lake	100	21,804	20,790	95	-91	0	-16	0
Somerville Lake	101	147,104	129,918	88	-3,207	-2	-16,759	-11
Canyon Lake	102	378,781	326,161	86	-12,207	-3	-52,620	-14
Medina Lake	103	254,823	179,425	70	-7,606	-3	-75,398	-30
*Coleto Creek Reservoir	104	31,040	24,322	78	-943	-3	-6,718	-22
TOTAL		1,947,454	1,464,561	75	-72,407	-4	-481,468	-25
		UPPER C	OAST					
Houston, Lake	105	128,863	128,863	100	0	0	0	0
Texana, Lake	106	153,246	116,013	76	-1,283	-1	-35,400	-23
TOTAL		282,109	244,876	87	-1,283	0	-35,400	-13
		SOUTH	ERN					
Choke Canyon Reservoir	107	695,262	617,736	89	-5,359	-1	-74,683	-11
Corpus Christi, Lake	108	256,961	208,049	81	693	0	-48,912	-19
*Falcon Reservoir (Texas)	109	1,551,034	781,000	50	74,000	5	-254,000	-16
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	968,000	37	109,000	4	-479,000	-18
TOTAL		2,503,257	1,606,785	64	69,334	3	-377,595	-15
STATE TOTAL		31,249,101	26,026,823	83	-345,108	-1	-2,688,401	-9
· •		31,213,101	_0,020,020	0.5	313,100	_	2,000,101	

<sup>\*</sup> Conservation volume is used as conservation storage capacity because the dead storage is unknown.

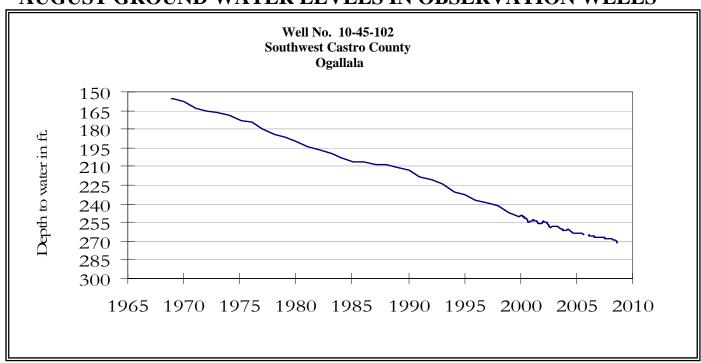
#### Note

Conservation storage capacity is the space available to store water above the lowest outlet and below the top of conservation pool, or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of conservation pool or normal maximum operating level), or any water in the dead storage. Conservation storage percentage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir on date shown. Percent change is given by 100\*(current conservation storage - past conservation storage)/conservation storage capacity. Figures shown are for the Texas share of conservation storage in all reservoirs.

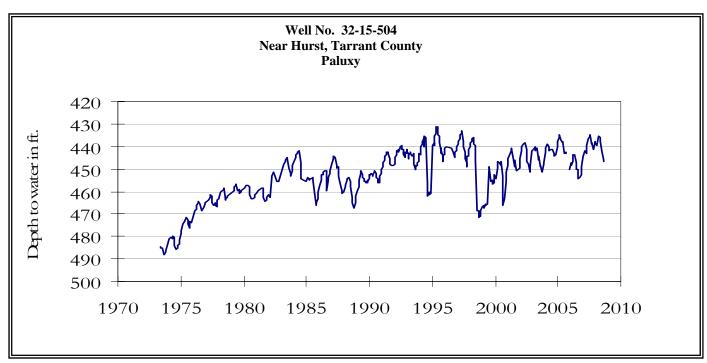
### GROUND WATER LEVELS IN OBSERVATION WELLS



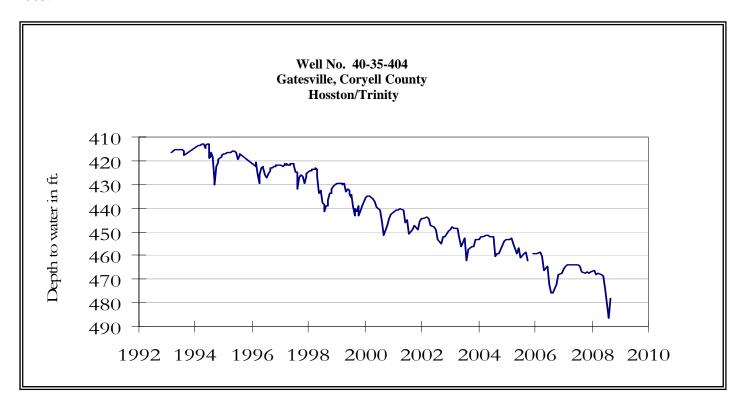
## AUGUST GROUND WATER LEVELS IN OBSERVATION WELLS



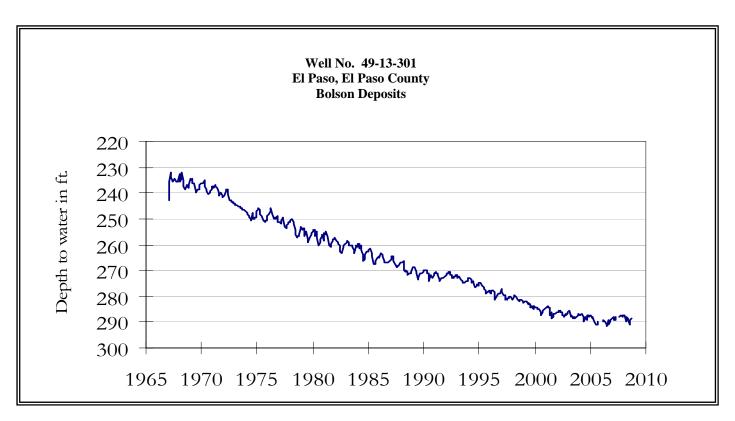
The late August water-level measurement in this Ogallala Aquifer well, elevation 3,816 feet above sea level, was 271.16 feet below land surface. This measurement was 0.68 feet below last month's measurement, 3.32 feet below last year's measurement, and 115.16 feet below the initial measurement recorded in 1968. No water level measurements were recorded for September through December 2005.



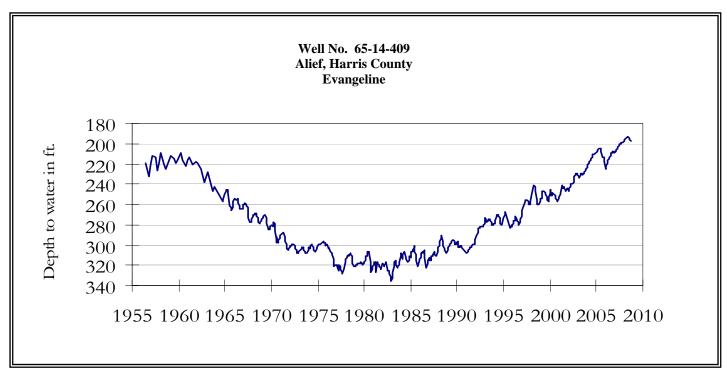
The late August water-level measurement in this Paluxy Formation Trinity Aquifer well, elevation 535 feet above sea level, was 446.41 feet below land surface. This measurement was 0.50 feet below last month's measurement, 7.16 feet below last year's measurement, and 68.41 feet below the initial measurement recorded in 1953. No water level measurements were recorded for September or October 2005.



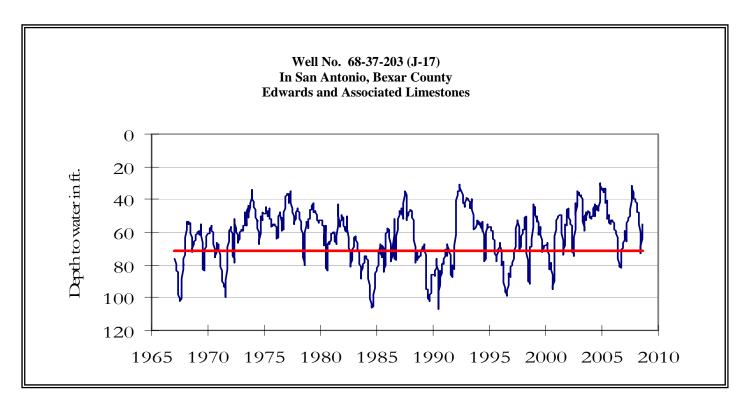
The late August water-level measurement in this Hosston Formation Trinity Aquifer well, elevation 823 feet above sea level, was 478.14 feet below land surface. This water level was 8.44 feet above last month's measurement, 10.97 feet below last year's measurement, and 186.14 feet below the initial measurement recorded in 1955. No water level measurement was recorded for October 2005.



The late August water-level measurement in this Hueco Bolson Aquifer well, elevation 3,882 feet above sea level, was 288.55 feet below land surface. This water level was 0.48 feet above last month's measurement, 0.49 feet below last year's measurement, and 56.65 feet below the initial measurement in 1964. No water level measurements were recorded for May through July 2007, and October or December 2005.

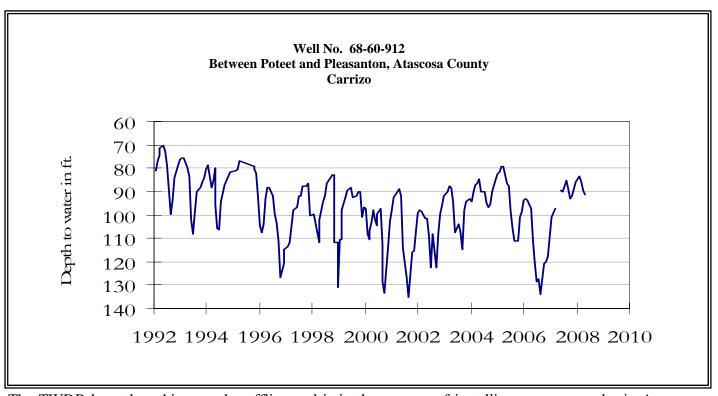


The late August water-level measurement in this Evangeline Formation Gulf Coast Aquifer well, elevation 66 feet above sea level, was 197.95 feet below land surface. This was 2.08 feet below last month's measurement, 1.27 feet above last year's measurement, and 62.45 feet below the initial measurement recorded in 1947.



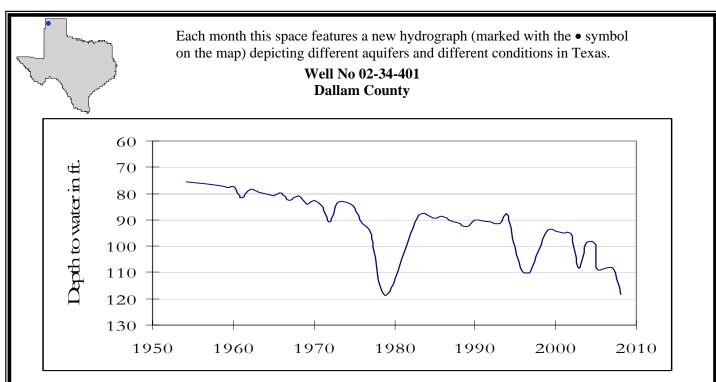
The late August water-level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 55.31 feet below land surface. This was 5.48 feet above last month's measurement, 23.81 feet below last year's measurement, and 8.67 feet below the initial measurement recorded in 1962.

\*\*\* Water levels below the red line indicate Edwards Aquifer Authority Stage 1 drought restrictions. \*\*\*



The TWDB has taken this recorder offline and is in the process of installing a new recorder in Atascosa County.

#### HYDROGRAPH OF THE MONTH



This water level observation well, located 9 miles northeast of Texline, at an elevation of 4493 feet ASL, was completed in the Rita Blanca Aquifer. The aquifer is mainly used for irrigation purposes and has experienced steady water level declines.

#### August, 2008

Water level measurements were available for six out of the seven key monitoring wells. Water levels rose in three of the reporting monitoring wells since the beginning of August, ranging from 0.48 feet in the El Paso Co. Hueco Bolson well to 8.44 feet in the Coryell Co. Trinity well. Water levels declined in the remaining monitoring wells, ranging from 0.50 feet in the Tarrant Co. Trinity well to 2.08 feet in the Harris Co. Gulf Coast Well. The J-17 well in San Antonio recorded a water level of 55.31 feet below land surface, 5.48 feet above last month's measurement. This water level is 15.69 feet above the Stage 1 critical management level.

TEXAS WATER DEVELOPMENT BOARD 1700 N. CONGRESS AVE. P.O. BOX 13231 AUSTIN TX 78711-3231